THE

HOME FRIEND;

A WEEKLY MISCELLANY OF AMUSEMENT AND INSTRUCTION.

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THE SKERRYVORE LIGHTHOUSE.

THE inhospitable rock of Skerryvore is so completely exposed to the full fury of the Atlantic Ocean, that it is consequently surrounded by an almost perpetual line of surf, which renders a landing on it always dangerous, and sometimes impossible.

The cluster of rocks, of which it is the largest, have always been a just

cause of terror to the mariner; and although a beacon to warn him of his approach to their dangerous vicinity was almost a necessity, yet the confined and rugged surface presented such extreme difficulties to its erection, that for many years none was even attempted.

"So discouraging," says Mr. Alan Stevenson, "was the consideration of the expense, and the uncertainty of the final success of such a work, that the Commissioners of the Northern Lighthouses, after successfully completing the arduous and somewhat similar work on the Bell Rock, were induced to proceed with other operations of less magnitude, but probably, in some respects, of no less utility, and to delay the construction of the Skerryvore Lighthouse until 1838, although the Act of Parliament authorizing its erection was obtained so long ago as 1814. The first landing that my father, in the course of his annual voyage round the coast as engineer of the Northern Lighthouse Board, effected on Skerryvore was in 1804. In 1814 he visited it a second time, while accompanying a committee of the Commissioners on a tour of inspection to the lighthouses all round the coast, from the Frith of Forth to the Clyde." On this excursion they were accompanied by no less a person than Sir Walter Scott; and his entry of the visit to Skerryvore, made in his diary, will perhaps give as good an idea of its situation as we can offer:—

"Having crept upon deck," says Sir Walter, "about four in the morning, I find we are beating to windward off the Isle of Tyree, with the determination of Mr. Stevenson, that his constituents should visit a reef of rocks called Skerryvore, where he thought it would be essential to have a lighthouse. Loud remonstrances on the part of the Commissioners, who one and all declare they will subscribe to his opinion whatever it may be, rather than continue the terrible buffeting. Quiet perseverance on the part of Mr. S., and great kicking, bouncing, and squabbling upon that of the yacht, who seems to like the idea of Skerryvore as little as the Commissioners. At length, by dint of exertion, come in sight of this long ridge of rocks (chiefly under water), on which the tide breaks in a most tremendous style. There appear a few low broad rocks at one end of the reef, which is about a mile in length. These are never entirely under water, though the surf dashes over them. To go through all the forms, Hamilton, Duff, and I resolve to land upon these rocks, in company with Mr. Stevenson. Pull through a very heavy swell with great difficulty, and approach a tremendous surf, dashing over black pointed rocks. Our rowers, however, get the boat into a quiet creek between two rocks, where we contrive to land, well wetted. I saw nothing remarkable in my way excepting several seals, which we might have shot; but in the doubtful circumstances of the landing, we did not care to bring guns. We took possession of the rock in the name of the Commissioners, and generously bestowed our own great names on its crags and creeks. The rock was carefully measured by Mr. S. It will be a most desolate position for a lighthouse—the Bell Rock and Eddystone a joke to it, for the nearest land is the wild island of Tyree, at fourteen miles distance."

It may also be added, that it is twenty miles from Iona, and fifty-three from Mallinhead in the county of Donegal, Ireland. The principal rock is about fifty miles from the nearest point of mainland of Scotland. Thus lying in an irregular semicircular sea, enclosed by the southern extremity of the Hebrides, the rugged shores of Argyllshire, and the northern coast of Ireland, but open on the other to the Atlantic. On this important spot was a lighthouse constructed by the almost incredible exertions of Mr.

Alan Stevenson; and we feel assured that a history of the obstacles and dangers he surmounted in his perilous undertaking will not fail to interest every one who possesses a true regard for the welfare of those who "go down to the deep in ships, and occupy their business in great waters."

Most grateful do we feel to Mr. Alan Stevenson for the valuable history he has given us of this his praiseworthy undertaking, of parts of which, we gratefully avail ourselves in the following details of the work. The list of shipwrecks which occurred at this spot, between the years 1790 and 1844, afford melancholy proof of the necessity of a beacon on that spot; and it is a well-known fact, that the fishermen of Tyree were in the constant habit of visiting the Skerryvore after gales, in quest of wrecks and their produce, in finding which they were rarely unsuccessful; and the shores of the neighbouring islands were frequently strewed with drift-wreck, in such a manner as to plainly indicate the destruction that had taken place on the shores round Skerryvore.

The principal rocks of the group are called Boinshly, Bo-rhua, and Skerryvore. The name of the first is derived from the Gaelic, signifying bottom, and deceitful. The swell around this seems to draw a boat as by a kind of suction on the rock; and, sometimes, such accidents cannot be prevented by the greatest caution. Sudden lifts of the sea are common even during an apparent calm, in all the more exposed parts of the coast; and any one much accustomed to the use of boats on these shores, must have experienced the hazard of such unexpected risings of the sea, more especially near shelving rocks, or in rapid tideways. The sea breaks on the rock with tremendous violence, and after or before a heavy gale of wind, rises to a prodigious height in a column or jet, resembling, at a distance, the play of a fountain. So high, indeed, does the sea rise on this shoal after heavy gales, that it often quite obscures the larger and more distant object of the rock and tower of Skerryvore, even when viewed from the top of Ben Hynish, near Tyree. The wooden barrack erected on the Skerryvore for the use of the workmen during the progress of the operations, although about sixty feet in height, was often lost sight of at Tyree, by the uprising of the sea on Boinshly, and could be seen only during the calm that intervenes between returning waves.

The name of Skerryvore signifies "great rock," and with the fragments into which it is divided it extends over a surface of a mile. The rock upon which the tower stands has a surface of about 280 feet square. It is extremely irregular, and intersected with gullies; one of these terminates in a hollow chamber under the sea, which threw up a jet of water about twenty feet high, resembling in appearance the Geyser of Iceland, and accompanied by a loud sound like the snorting of some sea-monster. "The effect of this marine jet d'eau," says Mr. Stevenson, "was at times extremely beautiful, the water being so much broken as to form a snow-white and opaque pillar, surrounded by a fine vapour, in which, during sunshine, beautiful rainbows were observed." But its beauties by no means reconciled the workmen to the inconvenience and discomfort of being constantly drenched, whenever the work carried them near it, and it was filled up. In addition to its shattered and disjointed appearance, the Skerryvore rock presents a striking example of the action of the sea. The surface is so glassy, as to have proved during the whole of the work a serious obstacle and hinderance to the operations. The landings were often made in very bad weather, and there was considerable danger to be encountered in springing ashore from a boat, in a heavy surf, upon an irregular main of

rocks as smooth and slippery as ice. The workmen were so sorely tried, that many inconvenient accidents occurred from falls. It was after one of these trials of patience that the foreman of the masons was heard, very graphically, to describe a landing on the rock as "like climbing up the side of a bottle."

Instead of a weather-beaten rock, whitened by the dung of sea-fowls, and with marine crustacea adhering to it, the surface of the Skerryvore is smoothly polished by the action of the waves; every projecting angle or point is worn down, and the whole presents more the appearance of dark-coloured glass than a reef of gneiss-rock. Excepting in the more sheltered crevices, no marine crustacea find shelter; but different kinds of sea-plants grow upon it in great abundance, at and below low-water mark.

A pier and workyard were formed at Tyree, so desolate an island that it was not only necessary to build houses for the reception of the workmen, but to import provisions and fuel. The latter was so scarce, that the inhabitants were compelled to procure it from the Island of Mull, nearly thirty miles distant. Stone was procured from quarries opened for the purpose at Tyree, and the summer of 1837 was chiefly occupied at that place in preparing a wharf, composed of rough blocks, from the quarry, which were dropped promiscuously into the sea. From the extent of the shoal-ground round the Skerryvore, and the want of good harbours in the neighbourhood, it was foreseen at the outset that the operation of landing about six thousand tons of materials on the rock could not be accomplished by means of sailing vessels, with that degree of certainty and regularity which the short-working season of the climate affords, and a steam-tender, called the Pharos, was accordingly employed for the purpose, and moored as near to the rock as was consistent with safety. On the 28th of June, 1838, Mr. Stevenson made his first landing on the rock. "We reached," he says, "our moorings at nine this morning, but there was so much surf that a landing could not be attempted till mid-day, when I went with Mr. Macarieh in the boat, and with some difficulty contrived to spring on the rock, after which the boat returned to the vessel for the rest of the party. While left alone on this sea-beaten rock, on which I had landed with so much difficulty, and as I watched the waves, of which every succeeding one rose higher than the last, the idea was for a few moments forcibly impressed upon my mind that it might probably be found impracticable to remove me from the rock, and I could not avoid indulging in those unaccountable fancies which lead men to speculate with something like pleasure on the horrors of their seemingly impending fate. These reflections were rendered the more impressive by the thought of how many human beings must have perished on the spot. A consideration, however, of the rarity of an opportunity for landing on the rock, and the necessary shortness of our stay, soon recalled me to my duty; and before the boat returned with a few workmen, I had projected some arrangements as to the first step to be taken in erecting a temporary wooden barrack for the men." Four hours were then passed in chalking out and marking on the rock with paint the sites of the lighthouse tower and the barrack, and the position for cranes and other necessary works. During this time, innumerable sea-fowl hovered round, and many seals were driven away from their favourite haunts. "I was amazed," says Mr. Stevenson, "to find that any animal should select as its place of repose a rock in the Atlantic, intersected by deep gullies which are never dry, with only one pinnacle raised about sixteen feet above the sea, while the greater part is only five feet above

high water. Yet in a crevice of this rock I found an egg resting on a few downy feathers, which the first wave must have infallibly washed away!"

After this day's work, they sailed for, but did not reach the workyard until nine the next morning. The first good day's work on the rock was on the 7th of August, when the materials for the barrack were landed. A short trial was made of boring one of the holes for the stancheons, by which the timbers of the barracks were to be secured to the rock, which was so hard, that with a jumper of three inches and a-half in diameter, it took an hour to bore a hole of about three inches in depth. The commencement of the operations involved much labour and considerable discomfort; but in spite of all the privations on the rock, the men exchanged it unwillingly for the shelter of the tender at night, for it rolled so heavily as to leave few free from a sea-sickness which prevented them from the sleep they so much needed after the toils of the day. On leaving at night, too, the greatest difficulty was encountered in boarding the Pharos with the two boats, containing upwards of thirty-two persons, as the vessel rolled so heavily that there was great danger of the boats being thrown right on her deck.

By degrees the wooden building advanced; a forge was erected with a wooden shed around it to protect the smith and his fire from the wind and the spray of the sea. In this month a heavy storm compelled them at two in the morning to set sail from this position near the rock, as there was every probability that the vessel would be otherwise dashed to pieces on the rock from the heavy seas that encircled them. "A more anxious night," says Mr. Stevenson, "I never passed, there being upwards of thirty people on board, with the prospect, during several hours, of the vessel striking every minute." After many hours of peril and anxiety, in a storm of rain, wind, and spray, they at length succeeded in setting foot again on the wild shores of Tyree, but it was not for many days possible to again effect a landing on the rock. The mode of life while moored off the rock was somewhat singular. At four o'clock in the morning work was commenced, and at eight the boat from the Pharos arrived with large pitchers of tea, bags of biscuit, and canteens of beef. Breakfast was despatched in half-an-hour, and work again resumed until two o'clock, which hour brought the dinner, differing in its materials from breakfast only in the addition of a thick pottage of vegetables, and the substitution of beer for tea. Dinner occupied no longer time than breakfast, and, like it, was succeeded by another season of toil, which lasted until eight, and sometimes until nine o'clock, when it was so dark that we could scarcely scramble to the boats, and were often glad to avail ourselves of all the assistance we could obtain from an occasional flash of a lantern, and from following the voices. Once on the deck of the little tender, and the boats twisted in, the materials of breakfast were again produced under the name of supper; but the heaving of the vessel damped the animation which attended the meals on the rock, and destroyed the appetite of the men, who, with few exceptions, were so little seaworthy as to prefer messing on the rock, even during rain, to facing the closeness of the forecastle. "As I generally," continues Mr. Stevenson, "retired to the cabin to write up my notes, when that was practicable, and to wait the arrival of my own refection, I was sometimes considerably amused by the regularity with which the men chose their mess-masters, and the desire which some displayed for the important duties of carving and distributing the rations. Even the short time that could be snatched from the half-hour's interval at dinner was generally devoted to a nap, and the amount of hard labour and long exposure to the sun, which could hardly be reckoned at less than sixteen hours a-day, prevented much

conversation during supper; yet, in many, the love of controversy is so deeply rooted, that I have often from my small cabin overheard the political topics of the day with regard to Church and State very gravely discussed on deck over a pipe of tobacco. Perhaps the great heat below, where upwards of twenty people were confined, might in some measure account for this wakefulness on board the tender."

During the stay at the rock, while the barrack was building, a shoal of small fish made their appearance; and from the pale blue silky membranes or sails which wafted them before a gentle breeze, they were thought by Mr. Stevenson to be a fleet of some species of Nautilus: they literally covered the face of the water as far as could be seen. One of these he sent in a phial to Professor Fleming, who gives it the name of Medusa velilla, and says it is noticed by Dr. Walker and Mr. Pennant as a native of Scotland.

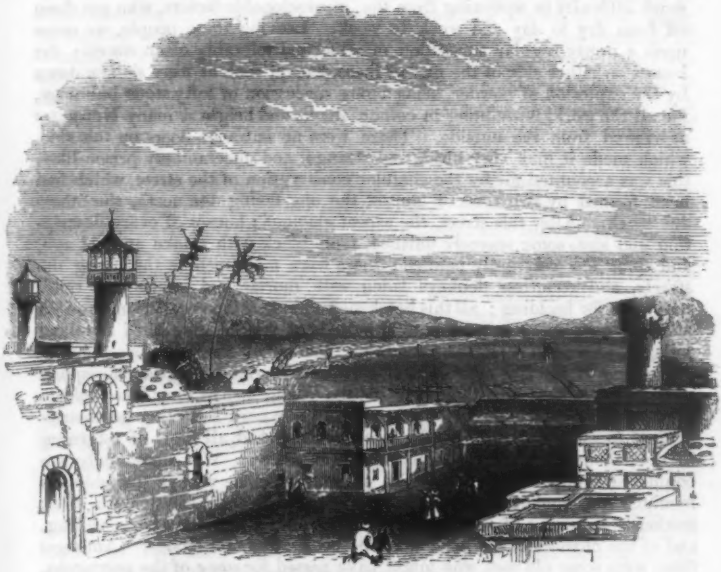
Between this time and the 11th day of September, when the work at the rock was closed for the season, many stormy days and nights sadly hindered and distressed the workmen. More than once in the month of August the tender was compelled to seek refuge in Tyree; and on the last day's landing at the rock, the boats narrowly escaped swamping. By this time the greater part of the barrack was completed; but the fixing of the habitable part was deferred, until the erection should have stood the test of a winter's trial. To the upper part of the wooden building a water-tight chest was lashed, containing biscuits and a cask of water, to serve as a means of support to any unfortunate shipwrecked mariner who might chance to reach the rock. Mr. Stevenson also caused some spars to be lashed at various levels, by way of testing the effects of the sea. Before leaving the rock, he climbed to the top of the pyramid formed by the wooden erection, from which he got a bird's-eye view of the various shoals which the stormy state of the sea so well disclosed; and the elevation above the work itself so much decreased the apparent elevation of the reef, that it seemed as if each successive wave must sweep right over its surface and carry them before it into the wide Atlantic. So loud was the roaring of the wind among the timbers of the barrack, and so hoarse the clamour of the waves, that he could not hear the voices of the men below, and but faintly caught the sharp tinkling of their hammers on the rock. "When," says Mr. Stevenson, "I looked back upon the works of the season, upon our difficulties, our dangers, and the small result of our exertions—for we had only been a hundred and sixty-five hours at work between the 7th of August and the 11th of September—I could see that, in good truth, there were many difficulties before us; but there was also much cause for thankfulness, in the many escapes from peril we had made."

SEA-COAST AND SHORES OF CILICIA.—No. VII.

ACRE, OR PTOLEMAIS, THE ANCIENT ACCHO.

"And when we had finished our course, we came to Ptolemais." (Acts xxi. 7.) This was precisely our case; we embarked from Tyre soon after sunrise, and by 4 P.M. the same day were safely landed at St. Jean d'Acre. The coast between Acre and Tyre varied much from what we had been accustomed to heretofore; the fine, stately mountains of the Lebanon we had now left behind us, and in their place appeared the low and mostly barren range of sandy hills, which run parallel with the sea-shore from Acre to close upon Askelon. Mulberry plantations, which help considerably to

heighten the beauty of a landscape, no longer cheered the eye with the pleasant green colour of their foliage. Wild plants, and even tall grass, were less abundant: the many small capes jutting out at angles into the sea



ACRE, WITH CARMEL IN THE DISTANCE.

were usually surmounted with a few hardy palm-trees; and beyond this there was nothing save a dreary waste of sand and black furze brushwood, on whose tasteless stalks meagre-looking cattle and goats were browsing. Acre was included in the portion of the tribe of Asher (Judges i. 31), when the Asherites dwelt amongst the inhabitants of the land, being unable to drive them out. It is presumed that Christianity was here planted at a very early period. The first Ptolemy, to whose lot Acre fell, much enlarged the city and called it after himself, hence the name of Ptolemais. We landed at the northern gates of the city, close under the ramparts of a solid fortress, parts of which were being rapidly repaired and reconstructed, the whole city and fortifications having suffered immense damage from the bombardment of the allied fleets in 1840, when almost the first shot fired penetrated into and ignited the powder magazines, which blew up with a terrible explosion; passing the sentry, whose duty it is to inspect the native passports of all travellers, we entered at once upon the town. A large open square, with a fountain in the centre, first attracts notice; this fountain is a kind of corn exchange amongst the natives. Groups of peasants are congregated round cunning-faced merchants, angrily expostulating or else supplicating for money due to them. These peasants cultivate the grounds of the wealthier Turkish inhabitants, receiving in lieu of money a certain number of measures of wheat, and this wheat they gladly dispose of to

those engaged in traffic. There is no doubt their gain is very trifling, the price given them being considerably below what the factors pass it for to the merchants, but the poor men have no help for this; money, in any shape or in any sum, is far more welcome to them, and even this they have much difficulty in squeezing from the unconscionable factors, who put them off from day to day and week to week. Leaving these people, we enter upon a pretty regular succession of wide and tolerably clean streets; the houses on either side of the first of these, except such as were shaken down by the explosion of powder, being a long succession of lofty stone buildings, for all the world resembling in colour, shape, and height so many Newgates as viewed from the outside. There were no entrance doors on this side, which made it look very bleak and strange, and uncommonly prison-like; this was accounted for by the singular construction of the street, which had been formed by two rows of houses, the one facing due north, the others due south. After this street, the aspect changed: houses of every description and size, some scarcely finished, some black with smoke and old age, and some few very gaily painted; there were many people thronging the streets, and countless donkeys laden with mortar and stones and other requisites for building; all this betokened an increasing population, brought about by increasing commerce. Hundreds of families that lived at inland villages, almost in a starving condition, hearing of the influx of shipping, occasioned by the free admission of corn into England, and the consequent demand for labour, sent their sons and the young men of their household to procure work, which might enable them to buy corn and other necessaries against the winter season, whilst many relinquished all ideas of returning to their homes and permanently abode at Acre. We occasionally encountered groups of whole families of strangers, the women and children mounted on donkeys, the men barefooted and besmeared with dust, anxiously inquiring of those they met in the street how wheat was selling, and of the chances of finding immediate occupation and labour. Amongst these were some old men who might have passed for some of the patriarchs, with their long white beards hanging down to their chests: these people all come to seek for bread, and each successive party we met, made us exclaim, here come the sons of Jacob into the land of Egypt. No doubt they must have represented just such a picture in costume, in outfit, in complexion, and perhaps even in profile, as many of those that we now passed. "Now when Jacob saw that there was corn in Egypt, Jacob said unto his sons, Why do ye look one upon another? And he said, Behold I have heard that there is corn in Egypt, get you down thither and buy for us from thence, that we may live and not die." With very little alteration, these doubtless were the words of many an old grandsire in the villages in the interior, where the harvest had been blighted, and where the poor people for months together had subsisted upon herbs unknown even to the wild boar, who would else have ferreted them up.

The bazaars were similar to those of most towns in Turkey, only wider and kept infinitely cleaner. Emerging from these, we passed into the Christian and Jewish quarter, and there dismounting found a welcome at an impoverished little inn, sole shelter in all Acre for the wayfarer; from the top of this inn, sitting under an umbrella, we sketched the view which is here inserted. Immediately below us were the flat roofs and terraces of the houses of some of the more opulent natives; some of these terraces—so as to afford privacy to the ladies of the harem, and to enable them to enjoy exercise and the prospect, and inhale the pleasant sea-breeze, at the same time that they

were effectually excluded from vulgar gaze—had high balustrades built round the terraces, the colonnades of which alone were of solid masonry, the intervening spaces being filled up with cylindric tiles, which, besides admitting the air to circulate freely, enabled such as applied the eye close to them to obtain an uninterrupted view of surrounding objects, without being themselves seen. Beyond these, to our right, was the battered remnants of a minaret, which from its very peculiar position must have afforded an excellent mark for the gunners of the ships of war to direct their aim, as it faces the bay of Caiphas where the whole fleet was at anchor. In the centre is the highway, at the extreme end of which is a low range of inferior houses, small taverns, and coffee-shops, built up against the buttresses of the fort; to the left—unique specimen of modern architecture—is the handsome military house erected by Ibrahim Pasha the late Viceroy of Egypt, and which, singularly enough, though in a very exposed position, escaped being injured by the bombshells and balls of the English ships of war. The windows and doors of this building are large and well adapted to make the apartments airy and healthy; and a pleasant balcony facing the sea, which is covered in with trellis-work thickly shaded by vines and other creepers, affords a pleasant retreat from the heat of the mid-day's sun to the officers and soldiers that are not actually on guard. Beyond this, we catch a glimpse of the ramparts, and beyond the ramparts again the pleasant blue, cool-looking waves of the Mediterranean. The masts of a shipwrecked vessel protrude high above the ramparts, and a small Arab boat is steering for the port, coming in all probability from the small town of Caipha, situated at the base of the distant Carmel, whose peculiar-shaped peak cannot fail to attract the notice and admiration of the stranger. To the left is a long, low range of hills, barren and desolate looking, and the interval between their base and the sea-shore is filled up with sand-hillocks and groups of elegant tall palm trees, the fruit from which is much sought after by the natives in the season. Along the pleasant sandy beach, as far as the eye can reach, we trace the high road which leads from Acre to Mount Carmel. One or two small rivers here flow into the sea, and with the exception of a solitary passenger who now and then urges his way forward, there is nothing to be seen, and the mid-day sun throws a glare over the picture which makes our eyes water again with weakness. To the extreme left is a large caravansary for the accommodation of travellers, a hummum or Turkish vapour bath, and a couple of minarets, and behind these again, excluded from view by nearer objects, the denser portion of the houses and shops constituting the city. Acre is now said to contain 18,000 inhabitants, 6,000 of whom are Christians of the Greek church, about 2,000 Jews, 2,000 Copts from Egypt, a few Armenians and a sprinkling of Catholics, and the remainder Moslems of the Ottoman empire. In no part of Turkey is the European stranger treated with greater respect and civility than at Acre, the natives being in perpetual alarm, lest any insult or provocation should chance to bring upon them so heavy a visitation as that of 1840. Few climates in Syria or Palestine are more unhealthy than that of Acre, and yet its position and appearance would argue much to the contrary; the fault must be local, and lie in the bad construction of the streets, or from some negligence in purifying the environs; the slaughter-houses and butchers' shops are a perfect nuisance, as the heat is so intense within the walls of the fort, that meat killed in the morning is almost in a putrifying state before mid-day. Had the Turkish Government the good sense to

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banish these shops, and oblige them to remove to the outside of the town, close to the water-side, where offal and such-like loathsome matter might be buried in the sea-sand, then one great cause of illness would be got rid of. A second is the tanners' pits and shops, sometimes situated in the very heart of much-frequented thoroughfares. So little does the Government heed that prop of its best interests, the welfare of the people. St. Paul, we are told, remained only one day at Ptolemais; if Ptolemais of that day had such a bad notoriety as the Acre of this day, the Apostle risked his health and his life by even this short stay. Fever was raging all around, and that of such a pernicious character, that many strangers who, like ourselves, had casually called in on their way to other parts of the coast, caught the infection and died during the night, or else carried the seeds away with them only to reach home or their destinations and there succumb to its pernicious effects: never had it raged with greater virulence, and there was barely a family but what mourned the loss of one or more dear to them. Many of the residents were panic-struck and fled in consternation to the neighbouring villages and towns. Above, the sky was serene and cloudless; below, birds were singing, flowers blossoming, trees yielding luxurious crops of fruits, the sea cool and clear as a mirror; and as we witnessed all these, and sat on the house-top in the cool of the evening to watch the sun dip his fiery orb into the watery horizon, it seemed hardly credible that when everything looked so bright and glorious, and the very air we breathed seemed laden with balmy health, direful pestilence should be hovering about. If any doubts, however, remained, these were speedily removed, for the last ray of the setting sun had barely disappeared beneath the wave, before a mournful wail burst forth from a neighbouring house, and the death-cry resounded for one more soul that had taken its flight from earth.

Death made fearful havoc—hundreds were swept away in a week, but still fresh hundreds came from the hills and the interior; vessels from foreign ports arrived, and Acre exported more corn that year than she had ever done in the memory of the oldest inhabitant. Of the old ruins of Accho, or Ptolemais, small fragments are to be met with here and there, half-buried pillars and broken-up tombs and cornices; but of a truth the weather was so hot, and sickness so prevalent, that we had small inclination to remain one hour longer than the time fixed for our departure.

A VISIT TO AUSTRALIA AND ITS GOLD REGIONS.—No. XV.

Letters like those in the preceding article might be selected by the hundred, but those specimens will suffice. They are more descriptively valuable than if they had been written for publication, inasmuch as they convey an idea not only of the general results of the discovery, but also show the impression produced upon individual intelligent minds. We shall present to our readers another, and a somewhat lengthy extract, written by a gentleman who established himself at the diggings for the purpose of purchasing gold, which will enable us to form a conception of the state of society there, and of the general features of a "Life at the Diggings."

"To forward our views we rode that afternoon into Geelong, to procure various little necessaries for our journey, and thus provided, set out the following morning, mounted on good horses and carrying our baggage with

us. The day was hot,—for you must remember that our November ranks with May in Europe, though more like April in its very changeable character; there was, however, a pleasant sea-breeze, which prevented the heat being oppressive, and I enjoyed the ride through a pretty park-like country, just now verdant with the young grass, but for the most part rather flat, so that on starting we could see the point of our destination in Mount Buninyong. We met with no particular adventure, the chief objects of interest being the various parties going to and coming from the Ballarat diggings, whither we were bound, great numbers being encamped in a forest about mid-way, and forming, with their temporary, gipsy-like tents, baggage-drags, and bush fires, some picturesque scenes. . . After an early breakfast at the little inn where we spent the night, we rode seven miles through a rugged forest-road to Ballarat, till within these last few months a part almost unknown, and simply forming a portion of a sheep run occupied by Mr. Y———. The hills, of very moderate height, rise from the valley with little hollows, (or gullies as they are called,) between them. Here the discovery of gold caused an accumulation of 8,000 or 10,000 people in a few weeks; and although by the time I arrived, the greater part of these had gone away again, there were still enough left to form a very curious scene, many hundreds of tents, of all sorts and sizes, being scattered about the valley in the most irregular manner, while others, including several stores, were clustered together on one particular hill, called Golden Point, the lower part of which has been upturned and ransacked for the precious metal it contains. At a little distance this hill looks like a vast gravel pit, consisting of fine red gravel, such as you would choose when sifted, for garden walks. On examining the ground more closely, the excavations are found to consist of square holes, all sizes and depths, from three or four feet to twenty or thirty feet. The strata are very variable and uncertain; but generally this bed of gravel lies upon a bed of whitish clay, and the gold is for the most part found in the lower part of this gravel, which is generally so firmly bound together, that it has become a hard conglomerate, which can only be broken with hammers.

"The gold is usually found in small, rounded, and evidently water-worn pieces, from the size of a pin's head to that of peas, but now and then of much larger size. The great bulk, however, is small, and scarcely perceptible to the eye among the gravel which is taken down to the stream and washed in tin dishes and cradles. . . . . Among the rough, unshaven, dirty-looking men who were at work, I every now and then discovered some friend, who could hardly be recognised in his bush attire, consisting generally of a blue or scarlet woollen shirt, worn outside *à-la-blouse*, with a leather belt round the waist, a straw or 'wide-awake' hat, and trousers, and thick boots of coarse materials, and all of one colour, viz., that of the clay and mud with which they are covered. Mr. W. was one of those who thus masqueraded, and addressed me without my knowing him. Among others of my acquaintance with whom I met, were lawyers, doctors, tradesmen, in fact, people of all sorts; but I noticed that generally the parties of labouring men were doing best. The success is very variable indeed; in proof of which one gentleman told me that he and his party had been working hard for six weeks, and had sunk thirteen deep holes, but got nothing. On leaving one of their holes, as a failure, another party took possession of it, and in two or three days took out 720*l.* worth of gold. . . . For some time past a new district, called Mount Alexander, had been attracting a good deal of attention, and a great many had pro-

ceeded thither from Ballarat. From all I had heard, I concluded that this would be the best place for our object of purchasing gold, and therefore we proceeded there, after spending three days at Ballarat. One of these days was Sunday. It was a very wet morning, and probably owing to this no clergyman visited us, otherwise there is generally service. The place was very quiet and orderly, no work being done, and most men being very glad of a day of rest, after their week of toil, for gold digging is no easy occupation.

"It was on the afternoon of the 11th of November that we strapped our baggage on to our horses, wound the leather ropes round their necks, and started for Mount Alexander, having the greater part of our money still with us. The direct distance is fifty miles, but we were too late to make a single ride of it, and slept at the house of Captain S——. Leaving Captain S——'s after breakfast, we rode at a moderate pace, thinking that we had plenty of time; but in consequence of our horses being low in condition. and losing our way, we were in our saddles till some time after dark. Our first business, on arriving at Mount Alexander, was to inquire for the tent of the Government Commission, where we deposited our money, as we had previously done at Ballarat, for the sake of safety. I am slightly acquainted with the Commissioner, who was very polite, gave me some information, and regretted that, owing to their small tent being full, they could not give us accommodation for the night. We therefore continued our ride for about three miles, to where the main diggings and the largest collection of tents were, in hopes of finding some place for rest and some grass for our horses. . . A friend with whom I happened to fall in, allowed me to creep into his tent and having obtained the loan of a blanket, I rolled myself up in it, munched a biscuit which I had in my pocket, and then lay down on the floor and soon fell asleep, thinking how many, with feather beds and pillows, would sleep less soundly.

"After an early breakfast, I rode slowly up the valley, visiting several gold-washers on my way, and buying a little gold. These diggings are of a very different character to those at Ballarat, being much more widely distributed; consequently, the tents of the diggers are scattered up and down the various valleys over a considerable distance, more or less thickly, according to the richness of the locality. After looking about us and making some inquiry, we decided upon pitching a tent (if we could get one) close to the Commissioner's, where I could carry on the business of gold-buying. Meanwhile we made a few purchases, and at night got accommodation in the tent of an acquaintance. No tent was to be bought or borrowed, and therefore, as there was no time to lose, we set about making one. We got the loan of a tarpauling, and then set to work, dug holes, cut down trees, stripped some bark off others, in which, by-the-by, a black fellow helped us, and by night had our tent pretty well secured. You would have laughed, or perhaps stared with astonishment, if you had seen me one minute chopping away a tree, or carrying it on my shoulder, and the next sitting on a log, weighing gold, and counting out the bank notes, for we did not lose any opportunity of buying when it occurred.

"The next day was Saturday (the 15th).—We were again early at work. Did more to our tent, and bought more gold. . . . . My furniture consists of a piece of bark stripped from a gum-tree, and nailed to four bits of rough wood in the form of a table (on which, moreover, I am now writing), on which I weigh my gold; my wardrobe, what I brought on horseback, and a pair of blankets. On Sunday, when I was as glad of a

day of rest as any of the diggers, I read the Church service to myself, and only went out a little in the afternoon, when the weather cleared up.

"*Monday*, 17*th*.—I was busy all day long buying gold, writing letters for the post, and in the evening making up my bags of gold for the Government escort, which was to leave Melbourne the following morning. I found I had purchased altogether just six hundred ounces, for which I paid on an average about fifty-seven shillings per ounce.

"The following morning presented a bustling and picturesque scene, when the escort was preparing to start. Previously to this week only two lots had been sent down from here by Government, and each time on horseback; but the success of the diggers had so increased, that there was now gold to the amount of 25,000*l*., and a chaise-cart was necessary. The cavalcade consisted of two mounted troopers ahead, then the chaise-cart, driven by an officer with an armed guard beside him, and six more troopers on horseback behind, four of them, I think, of the native black police. The pretty scene alluded to was when all this was preparing. The hilly, open forest land is in itself park-like, and on a rising ground the Commissioner's establishment is placed, consisting of several tents and two or three gungas, or bark-huts, made by the native police, after their own fashion. The troopers' horses were standing about ready saddled, and the men themselves, both black and white, and in various costumes, gave life to the picture, while of course some interest was added by the knowledge of the valuable load contained in the cart, and the rugged forest country through which it had to travel. I lost sight of the train as it wound among the trees, and in due time heard that it had safely reached its destination. . . My occupation during the remainder of the week was very uniform, but I occasionally took a ride or walk among the gold-finders, but did not like to leave my tent for long at a time, as my companion had now left me. About this part there are two kinds of diggings; surface digging, which is simply skimming off a thin layer of gravel from the surface of some of the hills, to the depth of a few inches, when a bed of gravel is reached, and hole-digging, which is digging down in hollow places in the streams, and between hills, and searching the fissures which exist between the slate-rock there found. Both kinds have proved very profitable to many. As an extreme case, three men, last week, got above 30 lbs. weight of gold in less than two days, out of a little patch of gravel of a few feet square, and not more than six inches deep. And, as an extreme case of hole-digging, I heard to-day of four men who took seven pint pots of gold out of a hole, or fissure, on Tuesday last. What a pint pannikin of gold weighs, I do not know, but, at a rough guess, I should think this prize would be worth not less than 3,000*l*. Of course these are but two extraordinary cases among some thousands of diggers; but, nevertheless, the great number of persons who are getting rich in this district is almost incredible. It is really most absurd to see rough, illiterate labourers come with their ounces and pounds of gold tied up in a bit of dirty rag, and sometimes to see them turn out of their dirty pockets, among bits of tobacco, bread, &c., twenty or thirty shillings-worth of the loose grains that have escaped the fragile package. Most of them bring it in the little round wooden matchboxes.

"The main valley of the diggers, which extends to where I am located, for about four miles, has an extraordinary aspect by day, from the number of tents and diggers scattered throughout it; and still more so by night, when the multitude of fires would lead a person to suppose that he was looking down upon a large town, till, on near approach, he perceives that

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each fire has it own little group of men clustered round it in front of their tent, some of them cooking their supper, some smoking their pipes, and not a few singing songs; each group presenting him, as he rides along, with a series of tableaux worthy of the pencil of a Teniers.

"The following Sunday was a finer day than the last. In the morning I took my nag, which had fared but badly on his tether lately, about a mile away, where there was some good feed; and while he enjoyed a couple of hours of sweet grass, I sat upon a tree, and united with those who, at a distance, were engaged in the services of our Church. In the afternoon a clergyman read prayers, and preached a sermon in the open ground, near the Commissioner's tent, where a congregation of about one hundred and fifty mustered together in a circle round him, joining in the responses, and singing the hundredth Psalm very well. Our service had just closed when the escort arrived from Melbourne. I was sorry to see it thus travelling on Sunday, but was told it was unavoidable this time, and that henceforward it would always leave on Tuesday and return on Saturday."

Gold Diggers crossing the Blue Mountains.

Although the details thus given refer only to one locality, they will nevertheless serve to illustrate the general character and features of all the diggings. Since the period to which they more especially refer, a large number of other places have been discovered where gold is to be procured with equal ease, and in equal abundance, and almost every ship that arrives bears its rich freight of the precious metal to our shores, with the intelligence that there is no falling off in the produce of the mines, and that the emigration from the home country cannot be too great to supply the gaps left in the general occupations of the colonies, or to fill up the measure of profitable labour at the mines. The following tabular view of the quantities of gold obtained up to the 20th March of last year (so far as could be ascertained),

affords us an accurate idea of the extent to which the search had been prosecuted, and of the success which had attended it:—

	Ounces.	Value.
Mount Alexander - - - - - -	208,000	£864,000
Gipps' Land - - - - - - -	15,000	36,000
Albany, to Feb. 20- - - - - -	4,000	12,000
Ballarat, to Feb. 21. - - - - -	106,000	315,000
Moruch / Araluar } to March 10. - - - - -	420,000	1,620,000
Batesford, to March 5 - - - - -	19,000	48,000
Anderson's Creek, to Jan. 31 - - - -	4,500	14,000
Geelong, to March 3 - - - - -	7,700	23,700
Yallock, to Feb. 10 - - - - -	5,100	15,900
Hopkins' River, to March 1 - - - -	28,000	82,500
Mount Wellington - - - - - -	29,856	89,650
Mount Disappointment, to March 10 - -	13,000	41,550
Ferry Creek, to Feb. 16 - - - - -	12,000	38,500
Turon - - - - - - - -	41,000	130,300
Bungonia - - - - - - - -	16,000	48,500
Pepper's Creek, to Feb. 26 - - - -	3,550	14,600
Bell's Creek, to March 3 - - - -	7,500	41,000
Major's Creek, to Feb. 13. - - - -	4,000	12,300
Tuena, to Feb. 16 - - - - - -	3,500	10,900
Rativa Hill, to Feb. 25 - - - - -	700	2,200
Ophir, to March 1 - - - - - -	1,800	2,500
Braidwood, to Feb. 26 - - - - -	10,000	31,000
River Plenty, to March 1 - - - -	6,800	21,950
Small Diggings, to Feb. 26 - - - -	17,000	51,500
	984,006	£3,567,550

So that in the course of ten months from the first working, with all the disadvantages of unskilled labour, and imperfect machinery and apparatus, the gold diggers had procured, in round numbers, about forty tons of gold, of the value of considerably upwards of three millions and a half sterling! When Columbus discovered the New World, it was calculated that about thirty-three millions in value of gold and silver were in possession of the civilized nations of Europe, which quantity was augmented during the three centuries in which the working of the mines there was uninterrupted, to upwards of three hundred millions, giving an average annual produce of less than a million sterling per annum.

It is calculated that the gold field of Australia is about one thousand miles in length, by three or four hundred in breadth, only a very small portion of which has yet been even explored. Should the yield continue to increase with the same rapidity it has manifested up to this time, we may expect that it will produce in thirty or forty years as much gold as America produced in three hundred, and even should it simply maintain the present supply, it will produce the same quantity in less than one-third of the time.

What effect this enormous quantity of the precious metal may be expected to produce, is simply a matter of speculation; but without entering very deeply into political economy, it will be evident that, as the precious metals are not consumable in the politico-economic sense of the term, the diggers are therefore non-producers, and consequently consumable articles will rise in price, on account of the smaller number of hands engaged in their production, as compared with the total population. This result is already

apparent in Australia, although it may be many years before it becomes apparent in other countries. Besides this, however, the mere abundance of gold, as compared with other articles of commerce, will naturally tend to raise the price of the latter as compared with the former, thus effecting a real diminution in the value of gold. No disturbing effect, however, will apparently be produced as regards the banking interests, inasmuch as bank notes only represent a certain fixed quantity of gold, and a depreciation of the purchasing power of the latter will be partaken of in an equal degree by the former, and there will consequently be an invariable equilibrium between the two. Those alarmists, therefore, who have been inclined to predicate the ultimate ruin of the Bank of England, because it is compelled to buy gold of all comers at 3*l.* 17*s.* 10½*d.* per oz., may dismiss their fears, when they remember that the price is paid in bank notes, the representative value of which will be exactly equal to the current value of the gold for which they were issued.

Dismissing, however, the subject of the effects of the discovery as regards the exchanges, let us turn our attention to its probable results in another point of view. The two richest gold deposits ever known on the globe are in possession of the two most polished, free, and civilized nations the world ever saw—England and the United States; and whilst California will draw together a mighty Anglo-Saxon population on the eastern side of the North Pacific, Australia will be attracting to its fertile shores an equally mighty host on the west side of the South Pacific. A magnificent ocean, covering more than one-third the surface of the globe, and whose very name proclaims its fitness for the most extensive navigation, rolls its waters between the two. On the opposite side to California, lie the immense country of China and the rich isles of Japan, whose inhabitants have hitherto held aloof from intercourse with their fellow-men. In immediate proximity to Australia lies an enormous group of islands, the two largest of which are scarce known to the world, but all of which teem with the richest and most valuable products of the vegetable kingdom. These are at present in the sole occupation of hordes of savages and pirates, incapable of appreciating their beauty or their utility. These call to Australia, when itself shall be more fully populated, to undertake the task of infusing, if possible, civilization into these barbarians; and the proximity of Australia to our East Indian possessions would indicate a coöperation in still further developing the resources of those rich countries, until we shall have reached, not for conquest, but for commercial and civilizing purposes, the confines of Thibet.

These are mere glimpses, as it were, into the dim vista of futurity; but who that will cast a retrospective glance at the progress of the first half of the nineteenth century shall say what may not be accomplished in the latter half? Should England, as some have predicated, be doomed to share the fate of Assyria, of Greece, of Rome, and of Carthage, it will at least have given birth to two herculanean republics, who will each take a hemisphere under its control, and with Anglo-Saxon energy, armed in the one hand with the sublime precepts of the Founder of Christianity, and in the other with the powers of nature which they have subdued to their service, they will extend their bloodless conquests, until all mankind shall recognise the dictates of the Creator, and form one universal brotherhood. To this end, however remote, may we not recognise a providential arrangement in the nearly simultaneous discoveries of the gold fields of California and of Australia?

HISTORY OF CAOUTCHOUC.—No. IV.

BOTANICAL HISTORY OF CAOUTCHOUC.

We have lately been favoured with some rambling notices of the Rubber-trees, a manufacture of America, in the graphic and interesting voyage of Mr. Edwards up the Amazon. Throughout the province of Para, the title of caoutchouc is universally disused, and the more elegant term seringa, or the more vulgar one, rubber, is employed to designate this substance, and the trees which yield it. Standing in the water, or imbedded in rich ooze, the seringa-trees are recognised by their light-grey bark, all scarred over with wounds. A passing cut at some of them evidently sets free the milky sap, and the white juice runs down the trunk. In the midst of the seringa-trees are the wretched habitations of the gum collectors. These were merely roofed or thatched on one side, and very often the water rose to the very door. No fruit-trees of any sort were there, nor was there sign of cultivation. The forest around was just sufficiently cleared to avoid danger from the falling trees, or to let in a glimpse of the sun. In these miserable places were always families, and thus they live all the year round, eating nothing but fish and farinha, and their situation only bettered in summer by its being less damp. The seringa-tree abounds in those moist and unwholesome regions, and indeed along the whole course of the Amazon, probably to its head waters. High up this vast stream the demand has not yet been felt, and the rubber is only employed medicinally, being applied, when fresh, to inflamed parts. There exists, consequently, an enormously large area, in which these trees abound, the riches of which it remains for another generation to develop. When the rubber is wanted, enough can be forthcoming to coat the civilized world. Writing of one of the islands visited on his return, Mr. Edwards thus describes the locality of these important trees:—"The island was covered with a fine forest, in which were abundance of seringa-trees, all scarred with wounds. We made some incisions with our tresados, and the milk at once oozed out, and dripped in little streams. Its taste was agreeable, much like sweetened cream, which it resembled in colour. These trees were often of great height, and from two to three feet in diameter; the trunks were round and straight, and the bark was of a light colour, and not very smooth; the wood was soft, and we easily cut off a large root, which we brought away with us. The top of the seringa is not very wide-spreading, but beautiful, from its long leaves, which grow in clusters of three together, and are of oblong ovate shape, the centre one rather more than a foot in length, the others a little shorter. These leaves are thin, and resemble in no respect the leaves of an East-Indian plant, often seen in our hot-houses, and called the caoutchouc. There is, probably, not a true seringa in all the United States." By this we perceive Mr. Edwards must be wholly ignorant of the fact that the East-Indian caoutchouc is obtained from one natural family of plants, the South American from another. Since the term seringa was first given by the Portuguese to the very trees of which Mr. Edwards is writing, and which are, unquestionably, the *Siphonia elastica*, it is incorrect to state, as stated in the last paragraph. "Around these trees were many of the shells, *Ampullarias*, used in dipping the gum, and also some of the mud cups, holding about half a gill each, which are fastened to the tree for the purpose of catching the gum as it oozes from the wound. We found also the fruit of the seringa; it is

ligneous, the size of a large peach, and divided into three lobes, each of which contains a small black nut. These are eagerly sought by the animals, and although the ground was strewed with fragments, it was with great difficulty that we found a pair in good preservation. Specimens of all these things, wood, leaves, shells, cups, and seeds, we secured."

Between Santa Anna and Para, upon the small river Mojee, Mr. Edwards found a regular manufactory of those somewhat dangerous articles of apparel—the American rubber over-shoes, or goloshes. His account of the processes employed in their formation is so fresh and interesting, that henceforth no history of caoutchouc will be complete without it. While waiting the tide, Mr. Edwards was conducted into a manufactory of these articles close by. The man of the house returned from the forest about noon, bringing in nearly two gallons of milk, which he had been engaged, since daylight, in collecting from one hundred and twenty trees that had been tapped on the previous morning. This quantity of milk, he said, would suffice for ten pairs of shoes, and when he himself attended to the trees, he could collect the same quantity every morning for several months; but his girls could only collect from seventy trees. The seringa-trees do not grow thickly usually, and such a number may require a circuit of several miles. In making the shoes, two girls were employed, in a little thatched hut, which had no opening but the door. From an inverted water-jar, the bottom of which had been broken out for the purpose, issued a dense column of white smoke, from the burning of a species of palm nut, and which so filled the hut that its inmates could scarcely be seen. The lasts used were of wood, exported from the United States, and were smeared with clay to prevent adhesion. In the leg of each was a long stick, serving as a handle. The last was dipped into the milk, and immediately held over the smoke, which, without much discolouring, dried the surface at once. It was then redipped, and the process was repeated a dozen times until the shoe was of sufficient thickness, care being taken to give a greater number of coatings to the bottom. The whole operation, from the smearing of the last to placing the finished shoe in the sun, required less than five minutes! The shoe was now of a slightly more yellowish hue than the liquid milk, but in the course of a few hours it became of a reddish brown. After an exposure of twenty-four hours, it is figured in various ways. This is done by the girls with small sticks of hard wood, or the needle-like spathes of some of the palms. Stamping has been tried without success. The shoe is now cut from the last, and is ready for sale, bringing a price of from ten to twelve cents a pair. In England we pay from 8*s*. to 10*s*. per pair. It is a long time before they assume the black hue. Brought to the city they are assorted, the best being laid aside for exportation as shoes, the other as waste rubber. The proper designation for this latter, in which are included bottles, sheets, and any other form excepting shoes, is *borācha*, and this is shipped in bulk. There are a number of persons in Para who make a business of filling shoes with rice, chaff and hay, previous to their being packed in boxes. They are generally fashioned into better shape, being stretched upon lasts after they arrive at their final destination. By far the greater part of the rubber exported from Para goes to the United States; the European consumption being comparatively very small. Latterly these shoes, in a superior state of finish, have been imported in quantities into England. A thin extra sole of vulcanized caoutchouc is generally attached to them, the surface of which is so rough as to render walking more secure than when

the shoes are left without this addition. It has been attempted to imitate these shoes in England by moulding the concrete rubber or caoutchouc into form; but the shoes do not bear contrast with the elegant and ligh appearance of those of American manufacture. Their valuable properties in resisting damp and cold are best appreciated by those who have used them. They have, however, the somewhat countervailing disadvantage of confining the insensible perspiration of the feet, which leather does not confine. To those who are engaged in pursuits which necessitate exposure to all weathers, night and day, the rubber goloshes prove invaluable.

Caoutchouc—and the remark has an application also to gutta percha—is found, as before observed, exclusively in what botanists term the milk-sap of plants. The milky juice of the lettuce, the spurge, and the celandine, all contain this substance, though in a minute proportion. This juice, or milk, is contained generally in some long, variously-curved and branched tubes, not unlike veins, which run in the bark, and also partly in the pith. These have been called vessels of the *latex*. Professor Schulze, of Berlin, struck with the similiarity of these vessels to veins, and of the milk to blood, thought they were really analogous in plants to the blood and blood-vessels of man. His treatise was honoured by the Paris Academy with the Monthyon prize. Yet cautious science, says Professor Schleiden, was compelled to demonstrate this theory to be only a brain-spun phantom. The milk-sap is usually of the consistence of thick milk; its colour is usually milk-white, sometimes it is yellow, red, and rarely blue—more frequently still it is colourless. Like animal milk, this juice consists of a colourless fluid and small globules. All the varieties contain more or less caoutchouc, which occurs in the form of little globules. These are prevented from coalescing by an albuminous substance, in the same way as are the butter globules in milk. Exactly like the cream of milk, the caoutchouc globules rise to the surface of the milk-sap of plants when left to stand; hence they form a cream, and coalesce, and cannot any more than butter be separated again into their distinct globules. The caoutchouc of commerce is imported under various forms; a very common form is that of the pear-shaped bottles with which every person is familiar. These bottles are produced by spreading layer after layer of caoutchouc upon a pear-shaped mould of unbaked clay. After applying the first layer, the mould is exposed to a column of smoke, and the surface is thus very quickly dried. It is then redipped in the fluid caoutchouc, and again dried in the smoke. The effect of this alternate dipping and drying is to produce a laminated structure in the caoutchouc, and if the cut edge of one of these bottles be examined carefully, it will be seen to consist of a number of layers, and not to form a homogeneous substance: the slight discoloration renders the line of demarcation between each layer in some instances very distinct. When the bottle is considered to be sufficiently thick, it is thrown into water, and in a short time the clay is capable of being entirely removed. It is to be regretted, however, that the Indians have learnt the art of adulteration, and that they are so constantly in the habit of mixing earth with the caoutchouc, managing the deception so well, that it cannot be detected until the bottle is cut into pieces. Frequently, also, small stones, are imbedded in the substance of the bottles. To so large an extent is this the case, that, as we have presently to observe, it is necessary to adopt two preliminary processes in the caoutchouc manufacture, solely with a view to get rid of these adulterations. The outer layer of these bottles is always black, or deep brown—a colour not necessarily due, as

XUM

we have so constantly read, to the smoke used in drying, but to some chemical action established by the atmosphere upon the caoutchouc. The interior layers are generally of a cream colour. Sometimes caoutchouc is imported in the form of large thick tablets. Professor Royle, in directing the attention of commercial men to the East-Indian caoutchouc, and to the form in which the best kind of caoutchouc is received from that country, states that the best price is given for that in the bottle form, or preferably, in that which is in the form of a cylinder, from one to two inches in diameter, and four or five inches in length. In all these varieties of form it may be seen by those who have the opportunity of visiting a caoutchouc factory. On such occasions the attention of visitors is often drawn to a trick practised by the Indians. Collecting all the scum and half-dried shreds adhering to the edges of their vessels, they squeeze them tightly together, so as to cause them to cohere, and the mass is then covered over with a layer or two of genuine fluid caoutchouc. In this state it is sold as a solid mass of caoutchouc, which in form it resembles. We have seen such masses cut open, when immediately the fraud became apparent.

A trick of this kind, played upon the author of 'Wanderings in South America,' is so amusing and characteristic, that we make no apology for its introduction here. "Some years ago," says Mr. Waterton, "there was a capital trick played me about Indian-rubber. It seems that the wild and uneducated Indian is not without (fraudulent) abilities." Weary and sick our traveller arrived at some Indian huts, which were about ten hours distant from the place where the gum-elastic trees grew. After a little rest he went to them, and with his own hands made a fine ball of pure Indian-rubber; it hardened immediately on its exposure to the air, and was surprisingly elastic. While procuring it, a torrent of rain fell, and so aggravated the traveller's disease, that he was unable to go again to the spot for a second ball. A fine interesting young Indian, observing his eagerness to have another ball, tendered his services, and asked two handsful of fish-hooks for his trouble. Off he went, and returned in an extremely short period. Bearing in mind the trouble and time it had cost Mr. Waterton to make the ball, the latter could account for the Indian's expeditiousness in no other way, except that being an inhabitant of the forest, he knew how to go about his work in a much shorter way than our author. The ball had very little elasticity in it; it was tried repeatedly, but never would rebound a yard high. The young Indian watched Mr. Waterton's attempts with great gravity, and when he made him to understand that he expected the ball would have danced better, he called another Indian, who knew a little English, to assure Mr. Waterton that he might be perfectly easy on that score. Mr. W. was given to understand that the ball was like the little moon, which the Indian pointed to, and by the time it grew big and old, the ball would bounce beautifully. This seems to have satisfied our credulous traveller, who gave the Indian the fish-hooks, which the latter received without the smallest change of countenance. Mr. Waterton bounced his ball repeatedly for two months after, but he found that it still remained in its infancy. At last his suspicion was aroused, and he cut the ball in half, and then saw what an artful trick had been practised upon him, It seems the Indian had chewed some leaves into a lump the size of a walnut, and then dipped them in the liquid caoutchouc. It immediately received a coat about as thick as a sixpence. He had then rolled some more leaves round it, and gave it another coat. He seemed still to have continued this process, till he had made the ball considerably larger than the one which

Mr. Waterton had formed with his own hands. In order to put his roguery out of all chance of detection, he made the last and outer coat thicker than a dollar.

THE RACES OF THE POPULATION OF THE UNITED STATES.

By an American.

I propose to show the elements of the population of the United States. This I shall do very briefly, but I trust satisfactorily, by two statements: first, by answering the inquiry which may be made, what was the character, as to races, of the population which composed the thirteen British colonies which declared their independence in 1776; and, secondly, in giving the numbers and character of the emigrants from Europe to the United States since the American Revolution, with an estimate of the probable numbers of the descendants of those emigrants, thus added to the population.

The British colonies in America, forming the original thirteen states, it is well known, were settled by emigrants—a large proportion of whom were natives of Great Britain. No considerable emigration of Celtic Irish, or other people of Celtic origin, took place until after the commencement of the present century. The New England States, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina, and Georgia, were mainly settled by Englishmen. New York, the only Dutch colony, passed under British dominion, with a small population, partly Dutch and partly English, in 1674. The Dutch records of 1673 say:—"They, and as many of the Dutch nation as are yet residing under this Government, are calculated to amount, women and children included, to about 6,000." In 1698 the total number of inhabitants in the colony was 18,067; and in 1723 the whites had increased to 34,393, and the blacks to 6,171—total, 40,564. This was under the English Government. A few Dutch, Germans, and Poles settled in New Jersey; a few Swedes in Delaware; many Germans in Pennsylvania, where they afterwards became one-third of the population; and some French Protestants, called Huguenots, in New York, New Jersey, and South Carolina. Besides the small Polish colony in New Jersey, referred to above, another branch of the Slavonic race was represented by a colony of a few Moravians and Bohemians in Pennsylvania.

With the exception of a few Scotch Highlanders, who settled in North and South Carolina and Georgia, I believe no Celtic colony is to be found among the settlements in the British North American colonies of either the seventeenth or eighteenth centuries. Settlements of Lowland Scotch and Scotch Irish from the north of Ireland were made in Pennsylvania and the Carolinas, and a small number of Irish Protestants settled in the town of Londonderry in New Hampshire. The very considerable numbers of Irish Protestants from Ulster and other parts of Ireland (of Lowland Scotch and not of Celtic origin) who have from time to time emigrated to the United States, have led to much confusion and error in investigating the elements of American population. But minute inquiries into the progress of the colonies will satisfy impartial observers that no considerable Celtic element existed in the population of America previous to the United States census of 1790. The Welch, considered by some as Celts, but who, in truth, are the descendants of the Cymri, furnished a small

proportion of the early emigrants to British America. They have doubtless mixed more with their English neighbours on their native island than have the Scotch and Irish; and of the emigrants to America, particularly to New England, it was often difficult to distinguish between the Welch and English who came over together in the early colonial history. There were, however, a few Welch colonies in the United States, in the last century, where the emigrants retained their language, manners, and customs. Such is the county of Cambria, in Pennsylvania, and some smaller settlements in New York and other States. It is probably fair to estimate the Welch element in the present population of the United States at 500,000.

In giving a view of the various races who contributed to form the population of the colonies, I should mention that a few Jews were among the number, principally commercial adventurers in the Atlantic cities and towns; but the greatest proportion of the Jewish race now found there is of recent emigration.

We see, then, that the following European races made up the population of the British colonies previous to the American Revolution, viz.:—Anglo-Saxon, Lowland Scotch, Scotch Irish, Welch, Highland Scotch, Germans, Dutch, French (Huguenots), Moravians, Poles, Swedes, and Jews. To these may be added a few Flemish or Belgians, who came over with the Dutch to New York and New Jersey. At the commencement of the Revolutionary war in 1775, the population of the thirteen colonies has been estimated at 2,000,000 of whites, and 600,000 blacks. There were a few Irish gentlemen of Celtic origin who accompanied the English Catholics of Lord Baltimore's colony to Maryland, and a few families of like origin are to be found among the old families of New England and some of the other States, but their numbers were too inconsiderable to affect a general inquiry and calculation like the present. The same remark will apply to the Irish Celtic servants and labourers, who accompanied the Anglo-Saxon, Welch, and Scotch emigrants in the seventeenth and eighteenth centuries to the middle and southern colonies.

I now proceed to examine, very briefly, the effect of emigration from Europe to the United States for a period of sixty years—viz., from 1790 to 1850, upon the present population of America. The following is the result of estimates and returns made up at the Census Office at Washington bearing upon this subject of emigration:—

IMMIGRANTS FROM FOREIGN COUNTRIES INTO THE UNITED STATES.

From 1790 to 1810 - - - -	120,000
From 1810 to 1820 - - - -	114,000
From 1820 to 1830 - - - -	203,979
From 1830 to 1840 - - - -	778,500
From 1840 to 1850 - - - -	1,543,850
Total number of Immigrants for sixty years	2,760,329
Natural increase in periods of ten years -	1,590,605
Total number of Immigrants since 1790 and their descendants in 1850 - - -	4,350,934

The aggregate number of whites, as shown by the census of 1850, was 19,631,799; so that, if we allow half a million for the gain of white population by the accession of Louisiana, Florida, Texas, California, and New Mexico to the territories of the United States, with a further allowance

for other accessions by immigration previous to 1790, it appears that about three-fourths, or more than 14,000,000 of the present population, are descendants of European colonists previous to the American Revolution.

Twenty years since, when the white population of the United States was 10,537,378, and the number of coloured people 2,328,642 (viz., slaves 2,009,043, free 319,599), according to the census of 1830, Professor Tucker, of Virginia, who has written much on the subject of population, made the following estimate of the division of the people of the United States, according to races and descent, viz. :—

	Census of 1830.
English and their descendants	6,000,000
Scotch	500,000
Irish	2,000,000
German	1,000,000
Dutch	500,000
French	300,000
Swedish, Spanish, Swiss, &c.	200,000
Total—Whites	10,500,000
Africans and their descendants	2,328,642
Total—White and Coloured	12,828,642

On the above basis, slightly varied, I give the following estimate of the approximate proportions of the different races forming the population of the United States in 1850:—

Anglo-Saxons	11,000,000
Lowland Scotch	700,000
Scotch, and Anglo-Saxon Irish	1,500,000
Celtic Irish	2,000,000
Welch	300,000
German	2,000,000
Dutch	800,000
French (including Huguenots)	1,000,000
Danes and Norwegians	100,000
Swedes	100,000
Swiss	50,000
Spaniards, Italians, Jews, &c.	100,000
Total—Whites	19,650,000
Africans, Slaves and Free	3,600,000
Total	23,250,000

With regard to the Irish Celtic population in the United States, it may be remarked that, compared with the inhabitants of the Anglo-Saxon stock, it is a short-lived race, and the average rate of mortality among these recent immigrants to America is much greater than among other portions of the population.

TRUTH.

Accustom your children to a strict attention to truth, even in the most minute particulars. If a thing happened at one window, and they, when relating it, say it happened at another, do not let it pass, but instantly check them: you do not know where deviations from truth may end.—Johnson.

THE MONKEY.

MONKEY, little merry fellow,
Thou art Nature's Punchinello;
Full of fun as Puck could be,
Harlequin might learn of thee.

In the very ark no doubt
You went frolicking about;
Never keeping in your mind
Drownëd monkeys left behind.

Have you no traditions—none
Of the court of Solomon?
No memorial how ye went
With Prince Hiram's armament?

Look now at him! slyly peep
He pretends he is asleep;
Fast asleep upon his bed,
With his arm beneath his head.

Now that posture is not right,
And he is not settled quite;
There! that's better than before,
And the knave pretends to snore.

Ha! he is not half asleep;
See, he slyly takes a peep,
Monkey, tho' your eyes were shut,
You could see this little nut.

You shall have it, pigmy brother.
What? another! and another!
Nay, your cheeks are like a sack,
Sit down and begin to crack.

There, the little ancient man,
Cracks as fast as crack he can;
Now good-bye, you merry fellow,
Nature's primest Punchinello.

MARY HOWITT.

EMIGRATION.

IT appears from the Report of the Emigration Commissioners, that 335,966 persons emigrated from the United Kingdom in the year 1851. Of these, 267,357 went to the United States; 42,605 to British North America; 21,532 to Australia; and 4,472 to other places. The Report for the year 1852 will no doubt show a very different distribution of the emigrating masses, the numbers going to Australia being greatly on the increase.